

In dealing with the interior region of British Columbia lying between the Rocky and Coast Mountains no mention is made of the actual evidence obtained of a movement of ice from north to south in this plateau district, though it is afterwards incidentally alluded to in a quotation connected with a proposed explanation of the facts observed. The drift-covered and erratic-strewn character of the country is also ignored; and while the lower terraces bordering the rivers are mentioned, and attributed to fluvial action—a view doubtless substantially correct—the fact that terraces are found beyond the river-valleys attaching themselves to the higher parts of the plateau and to the mountain-sides to an elevation of 5270 feet is passed over in silence. The conclusion is then easily arrived at that the “statement” of 1866 is “entirely borne out by an overwhelming weight of evidence.”

Turning now to the coast of the province, Prof. Whitney of course admits the marked glaciation of the south-eastern extremity of Vancouver Island, which has been noticed by a number of observers, and which he has himself seen during a hurried visit. He states however that the markings he saw were everywhere parallel to the coast, and appeared to him more like iceberg than glacier work. Now as the coast is very sinuous in outline, while the main glaciation pursues *within a few degrees a uniform direction* (S. 11° W.), the two must in some places coincide, but an intimate acquaintance with the south-eastern part of Vancouver Island enables me to state that the glaciating agent has swept completely and steadily over it entirely, without reference to the present coast outlines. With regard to the second statement, I believe that a reference to the description of the character of the glaciation given in one of my papers already referred to (*Quart. Journ. Geol. Soc.* vol. xxiv. p. 92) will be sufficient to convince any one who is familiar with ice action that a glacier has done the work. It is of course easier to be personally assured, where so much depends on judgment of local details, than to demonstrate the actual conditions to others; but the parallel grooving and furrowing out of hard rocks in the manner illustrated on pp. 93, 94, and 96, one has been accustomed to consider as characteristic of glaciers.

Further on Prof. Whitney assumes that the “manifestations” of the supposed Strait of Georgia glacier are “almost or quite exclusively limited to its termination.” Some evidence to the contrary is however given in the publication to which special reference has just been made, while subsequent exploration—the published account of which Prof. Whitney appears to have overlooked—has brought to light similar and concordant glacier-work at Nanaimo, ninety miles to the north-west of Victoria, and has also demonstrated that a second branch of the great ice mass which choked the space between Vancouver Island and the mainland, comparable in size with that of the Strait of Georgia, discharged north-westward by Queen Charlotte’s Sound (*Canadian Naturalist*, vol. ix. No. 1). In the lately-issued volume of the Geological Survey (1878-79) additional facts tending to show the importance of ice-action in the Queen Charlotte Islands and extreme north of the coast of British Columbia are given.

Not being in the position of having any favourite theory of glaciation to maintain, I wish merely to indicate by a few examples the inadequacy of the portion of Prof. Whitney’s monograph which is intended to summarise the glacial conditions of British Columbia. Prof. Whitney appears to have been beset by observers “entirely inexperienced in the study of glacial phenomena” to such an extent as to render him unduly suspicious of the evidence obtained by other workers. He states, for example, that in passing to the region north of the boundary of the United States “we have to depend largely on the observations of others,” and that “an attempt will be made to sift the evidence offered.” Now while it is a little discouraging to find that one must belong to the class of “others,” I feel confident that to any unprejudiced inquirer the facts already accumulated and published are sufficient to prove the general and pronounced character of the glaciation of British Columbia. It is perhaps not too much to ask that in this matter purely negative shall not be put on an equality with positive evidence. Prof. Whitney’s profound distrust of the “others” again appears where he qualifies a reference to my statements by the clause “even if his observations be accepted as entirely trustworthy.” It is, however, so far satisfactory to find oneself in good company, for Dr. Hector, who has also had the misfortune to have had something to say about this region which does not conform to Prof. Whitney’s hypotheses, is referred to as “evidently quite inexperienced,” and one whose “statements must be received with some caution,” while Dr. R. Brown for a

similar sin is characterised as “an entirely unpractised observer.”

GEORGE M. DAWSON  
Geological Survey of Canada, Montreal, December 22, 1880

### Lophiomy's Imhausi

IN NATURE of January 1, 1880, I published a note on the “habitat” of that strange and excessively rare rodent *Lophiomy's Imhausi*; it may interest many of your readers to know that I have recently received from Count Lodovico Marazzani a splendid specimen of that species from a new locality, viz. Erkauid, on the mountains between Suakin and Singat, where it was captured quite accidentally on April 12 last by a shot from a small revolver. It was also secured and preserved by mere chance, for it was found by a small terrier and killed at the bottom of a deep fissure in the granitic rocks, and its value was quite ignored by those who first handled it; thus the skeleton and viscera were lost, but happily the skin was in excellent condition, and the skull had been left attached. It is an adult female and has four teats, two pectoral or rather axillary, and two inguinal; it is rather larger than the fine specimen at Genoa, but does not differ in colour or richness of fur. The luxuriant dorsal mane to which this creature owes its name is separated from the long hairs of the body by a narrow stripe of short stiff greyish green bristles. The iris was dark brown, and the animal emanated no special odour.

This is the fourth specimen of *Lophiomy's Imhausi* that has been secured to science; the first was the type specimen accidentally brought alive by M. Imhaus at Aden and described by Prof. A. Milne-Edwards; it is in the Paris Museum, skin, skeleton, and viscera preserved. The second is the skull accidentally picked up by Dr. Schweinfurth at Maman, north of Kassala, and described in 1867 by Prof. Peters as *Phractomys aethiopicus*; it is I believe at Berlin. The third was accidentally killed by a blow on the head with a stick in the Seriba of Beccari and Antinori at Keren in the Bogos country in 1870; the mounted skin and skeleton are in the Civic Museum at Genoa. The fourth is the subject of this note; its skin has been splendidly mounted by my able taxidermist Signor R. Magnelli, and it and the cranium form an important item of the Florence Zoological Museum. The natives told Count Marazzani that *Lophiomy's* is rare, that it lives in deep holes in the strangely fissured rocks of that country, and that it is a vegetable feeder; the stomach of the specimen I have was much distended with leaves and young shoots when Count Marazzani skinned it.

The “habitat” of this species is now pretty well defined by lines drawn from Suakin to Maman and Kassala, and thence southward towards the Somali coast.

HENRY HILLYER GIGLIOLI

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### Parhelion

YESTERDAY a parhelion or mock sun was seen here. At 3h. 20m. I was at the Observatory, and the true sun was sinking in the south-west upon a somewhat dense cloud-bank with light and long cirro strati about and above it. The air was comparatively calm, the anemometer cups moving only occasionally and slowly. The horizon was foggy and misty. The spectral sun appeared as a bright diffused circular spot of light tinged with prismatic colours about 30° to the left (E.) of the true sun, and in a horizontal line with it.

I could trace a segment of a circle having the sun for its centre, for a few degrees above and below the mock image.

To the west I could not trace any false image or continuation of the circle. The phantom image slowly faded away in about ten minutes from its being first observed. The weather has been severe here (something over 200 feet above sea), but hardly so sharp as in some other (probably lower-lying) places. With Negretti and Zambra’s standard minimum in cage four feet from the ground, 11° is the lowest I have registered.

During, however, the past seven days the maximum has only twice risen above freezing-point, and then but 1°.

Guildown, Guildford, January 21 J. RAND CAPRON

### Girton and Newnham Colleges

SOME of your readers may perhaps be glad to help the natural science students of Girton and Newnham Colleges to raise about 800*l.*, needed for a physical and biological laboratory. The

present provision for practical work is very inadequate, and the number of students has largely increased, while the required money is not forthcoming. I have already received the following donations, and shall gratefully acknowledge any further help:—Mr. Charles Darwin, 5*l.* 5*s.*; Mr. Edward Dormer, 5*l.*; Mr. T. Newland Allen, 3*l.* 3*s.*; Mr. William Fasseridge, 2*l.* 2*s.*; Anonymous, 2*l.*; Mr. Frank Dethridge, 1*l.* 1*s.*; Anonymous, 1*l.*; Mr. G. Eves, 1*l.*; Mrs. Eves, 1*l.*; Mr. R. Wilkinson, 1*l.* 1*s.*; Rev. C. T. Mayo, 1*l.* 1*s.*; smaller subscriptions, 4*l.* 15*s.* Any further particulars will be most willingly given.

FLORENCE EVES,

Science Student of Newnham College

Mitton House, Uxbridge, January 22

### Minerva Ornaments at Troy v. Net-Sinkers

NOT having seen the numbers of NATURE regularly during the autumn, I did not observe Mr. Sayce's reply to my letter on the above subject until lately. I may perhaps trespass on your space with a few lines in reference to it.

I certainly did not observe any markings upon the stones in question that could be construed into any likeness to a human face or to that of an owl. Not having the opportunity of re-examining them I must take this as granted according to Dr. Schliemann's judgment. Of course an expert can see, and see with certainty, what to one less experienced seems quite invisible. At the same time an enthusiast, as we all know, is rather apt to "oversee," and find in his relics more than actually exists. I say this, as it is a common occurrence, and not in any way to disparage Dr. Schliemann's valuable work.

But admitting the existence of such outlines upon the stones in question is it not far more probable that the half-savage natives of the Troad may have taken advantage of certain suggestive lines and roughly outlined an image upon a net-sinker, than that they made so large a number of rough and uncouth things as likenesses of Minerva? The use of stones similarly chipped in the middle as net-sinkers seems common to savages all over the world, and it would seem to me therefore wiser to name them net-sinkers (with outlines, &c.) than to tickle them "Minerva ornaments."

One point, if I understand him aright, which Dr. Schliemann endeavours to prove, is that Ancient Troy stood close to the river. Hence the occurrence of net-sinkers may be considered as probable.

E. W. CLAYPOLE

Antioch College, Yellow Springs, O., December 18, 1880

### THE PROVOST OF TRINITY COLLEGE, DUBLIN

THE Rev. Humphrey Lloyd, D.D., was born in 1800. He was the eldest son of the Rev. Bartholomew Lloyd, who was Provost of Trinity College, Dublin, from 1831 to 1837. Humphrey Lloyd entered his father's college in 1815, graduated as a Gold Medallist in Science in 1820, and was elected a Fellow in 1824. In 1831 he was appointed Professor of Natural Philosophy. He was co-opted a Senior Fellow in 1843, was made Vice-Provost in 1862, and was appointed by warrant from the Crown to the Provostship in 1867. He died, after a few days' illness, in the Provost's house on the 16th inst.

Full of years and honours, a very distinguished life has been brought to a close. Part of it was spent in laborious scientific research, part as the head of a great teaching establishment. Both portions of his life were a success, as even a short sketch of that life will show.

Lloyd was an excellent, though by no means a profound, mathematician. On becoming the Professor of Natural Philosophy he devoted himself with some ardour to the study of physical optics, and his report on this subject, laid before the fourth meeting of the British Association, was quite a masterpiece of reporting, and may still be consulted with pleasure. He was not however by any means content with having a knowledge of the work done by others, but was determined to enter on the field of original work himself; an opportunity soon offered. About 1832 Sir William Hamilton had been investigating the relations between the surface of wave-slowness and that of the wave, and thereby had been led

to the discovery of some new geometrical properties of the latter. These properties he demonstrated by means of certain transformations of the equations of the wave-surface, and he showed that this surface had four conoidal cusps at the extremities of the lines of single ray-velocity, at each of which the wave is touched not by two planes as Fresnel supposed, but by an infinite number forming a tangent cone of the second degree; while, at the extremities of the lines of single wave-velocity, there were four circles of plane contact, in every point of each of which the wave-surface is touched by a single plane. These singular properties led Hamilton to anticipate two new laws of refraction called by him external and internal "conical refraction." Hamilton was naturally desirous of having his theoretical conclusions proved by experiment; such experiments required a wonderful patience, delicacy of touch, and an almost instinctive sagacity. As possessing all these he selected Lloyd to solve his problem; and by his labours in a short time the reality of this interesting phenomenon was established.

The memoir by Hamilton and the experimental researches by Lloyd appear in the same volume (xvii.) of the *Transactions* of the Royal Irish Academy.

Lloyd published several treatises and memoirs relating to optical science, but he was persuaded by Sir Edward Sabine to turn his attention, about 1836, to the subject of terrestrial magnetism. At his request the Board of Trinity College, Dublin, built a magnetical observatory, and the Professor entered with zeal upon those studies of magnetism which will for ever remain connected with his name. It would be unnecessary here to enumerate his very numerous writings on this subject.

In 1838 the British Association resolved that having regard to the high interest of the simultaneous magnetic observations which have been for some time carried on in Germany and various parts of Europe, and the important results to which these have led, they regard it as highly desirable that similar series of observations should be instituted in various parts of the British Dominions, and they suggested, as localities particularly important, Canada, Ceylon, St. Helena, Van Diemen's Land, and the Cape of Good Hope, also in the Southern Hemisphere. They further appointed as a Committee to approach the Government on this question Sir J. Herschel and Mr. Whewell, Dr. Peacock and Prof. Lloyd. The Committee, appointed late in August, at once set about their arduous work, and their memorial was laid before Lord Melbourne in the November following. The President and Council of the Royal Society strongly supported the memorial, and these concurrent representations were attended with full effect. In the Report of the Committee to the British Association in 1839 it is stated, "probably at the very moment when this report will be read, two ships, the *Erebus* and the *Terror*, under the command of Sir James Clark Ross, will be already on their voyage to the Antarctic Seas, carrying with them every instrument requisite for the complete and effectual prosecution of important magnetical researches in the high southern latitudes, and also complete establishments, both personal and instrumental, of the fixed magnetical observations to be placed at St. Helena, the Cape of Good Hope, and Van Diemen's Land. It was no wonder that the Committee were proud of the result of their labours, and that they acknowledged in strong terms the ample and liberal manner in which every demand on the national resources had been without exception granted, expressing at the same time the hope that this splendid example might be followed up by other nations. The report is signed J. F. W. Herschel and H. Lloyd.

In 1843 Dr. Lloyd pointed out a mode of reducing the error attending the determination of the intensity of the earth's magnetic force to less than one-fifth of that by the ordinary method.

In 1858 he again pointed out a fatal imperfection